

DETAILED DESCRIPTION 2000-244753

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention relates to the facsimile machine which has an image memory and has a cipher-processing function.

[0002]

[Description of the Prior Art] In recent years, in almost all facsimile machines, it had an image memory, and how to use this image memory conventionally was because it is preservation of high confidential communication of privacy, and image storage when a print sheet is exhausted. However, since the capacity of an image memory has a maximum, some proposals are made to the disposal method of the image data which cannot finish going into an image memory. Especially, as a thing using the enciphering function of image data, when unrecordable on an image memory, it once enciphers and encrypted images are printed, the encrypted images by which the printout was carried out later are read, and some methods of decrypting are proposed.

[0003] For example, to JP,H4-358478,A. "If judged with image memory residues running short by a memory residue detecting means, A part of drawing information accumulated in the image memory is outputted, and it is enciphered by the encoding means, The enciphered drawing information is printed out by the recording form with a printer with the document information which answered said drawing information read from the document information storage means, If the manuscript in which the enciphered drawing information and its document information were recorded is read with a scanner, Among the read information, document information is deleted by a document information deleting means, and the facsimile machine with which a restoring means reverts and only encryption drawing information is accumulated in an image memory" is indicated. When confidential reception of the "image data is carried out at JP,H6-152990,A, Investigate the remaining capacity of an image memory, and if accumulation of reception picture data is possible, reception picture data is stored in an image memory, It is judged whether if accumulation is impossible, only confidential reception picture data exists in an image memory, If only confidential reception picture data exists, print recording of this reception picture data and the password will be enciphered and carried out, Usually, the usual reception picture data driven out of an image memory since the image data which received if reception picture data also existed is stored is determined, The facsimile machine which overwrites the determined confidential data which usually carried out print recording of the reception picture data, and was received to this usual reception picture data on the image memory" is indicated.

[0004]

[Problem(s) to be Solved by the Invention] However, in the above-mentioned conventional facsimile machine, the data in a. image memory is specified, and since it does not have a means to encipher the specified data, the function enciphered and outputted is a function in which it was limited at the time of facsimile reception.

[0005] b. Since it does not have a means to specify the data which an addressee wants to encipher beforehand, the data kept secret is only confidential received data, and even if common received data are the cases where an addressee wants to keep it secret, they cannot be kept secret. It had SUBJECT to say.

[0006]This invention solves above-mentioned conventional SUBJECT, is excellent in privacy, and aims at offer of the facsimile machine which can do usage like a filing device or a copy device.

[0007]

[Means for Solving the Problem]An image memory in which this invention accumulates image data in order to solve an aforementioned problem, A data address means to specify image data accumulated in an image memory, and a code image encoding means for enciphering specified image data, A code picture decoding means restored to a general picture which is not having an enciphered code picture enciphered, An image input means which inputs image data, and a picture judging means inputted image data judges a general picture or a code picture to be, It has the composition provided with an image transmission means which changes general image data into facsimile information, and transmits, a picture reception means which receives facsimile information, and a picture output means which prints a reception picture and a code picture.

[0008]By this composition, while excelling in privacy, a facsimile machine which can do usage like a filing device or a copy device can be provided.

[0009]

[Embodiment of the Invention]Since this purpose is attained, the facsimile machine of this invention according to claim 1, The image memory which accumulates the image data inputted or received, and the data specification part which specifies 1 or two or more image data which were accumulated in said image memory, The code image encoding part which enciphers the image data specified by said data specification part, The code image decoding part restored to the general image data which is not having the code image data enciphered by said code image encoding part enciphered, The image input part which inputs image data, and the image decision part the image data inputted by said image input part judges general image data or code image data to be, It supposes that it had the image transmission section which changes general image data into facsimile information, and transmits, the picture receive section which receives facsimile information, and the image output part which prints the image data in said image memory, and has the following operations by this composition.

[0010]a. Confidential received data, common received data, and input data are memorized by the image memory, and it can specify by a data specification part.

[0011]b. Since it has the code image encoding part, the image data specified by the data specification part can be made into code image data.

[0012]c. Since it has the code image decoding part, the image data specified by the data specification part can be made into general image data.

[0013]d. Since it has the image output part, the image data specified by the data specification part can be outputted.

[0014]The image memory in which the invention of this invention according to claim 2 accumulates the image data inputted or received, The data specification part which specifies 1 or two or more image data which were accumulated in said image memory, The password input which inputs a password, and the code image encoding part which enciphers the image data and password which were specified by said data specification part, The code image decoding part which restores the code image data enciphered by said code image encoding part to general image data and a password, The image input part which inputs image data, and the image decision part the image data inputted by said

image input part judges general image data or code image data to be, The password judgment part which judges whether a code picture and a password are proper, It supposes that it had the image transmission section which changes general image data into facsimile information, and transmits, the picture receive section which receives facsimile information, and the image output part which prints the image data in said image memory, and, in addition to an operation of Claim 1, has the following operations by this composition.

[0015]a. Since it has a password input part, a password can be registered into image data.

[0016]b. Since it has a password judgment part, when restoring the code image data into which the password was registered, it is judged whether a password is proper, and when not proper, even if it is the image data specified as the data specification part, it cannot restore.

[0017]The operation input section which has a means by which the invention of this invention according to claim 3 is the facsimile machine according to claim 1 or 2, and said data specification part inputs the information relevant to the image data in a picture memory part, It supposes that it had the image memory Management Department which does the accumulation and extraction of image data corresponding to said information, and, in addition to Claim 1 or an operation of 2, has the following operations by this composition.

[0018]a. Since the image data corresponding to it is specified by inputting the information relevant to image data, operativity increases.

[0019]The invention of this invention according to claim 4 is the facsimile machine according to claim 3, decides that said information is information which specifies the individual remembered by the facsimile number or the facsimile machine, and, in addition to an operation of Claim 3, has the following operations by this composition.

[0020]a. The plural specifications of the image data relevant to the personal name memorized by the facsimile number or the facsimile machine can be carried out collectively.

[0021]b. Since encryption etc. can be performed whenever it receives the image data corresponding to these by inputting beforehand the personal name memorized by the facsimile number or the facsimile machine, operativity increases.

[0022]The invention of this invention according to claim 5 is the facsimile machine according to any one of claims 1 to 4, In the case of the output of said code image data, said image output part decides to display the information relevant to said code image data which is not enciphered on said a part of code image data, and, in addition to an operation of any 1 paragraph of Claims 1-3, has the following operations.

[0023]a. Since it can save and output with the information which can decipher the image data by which memory preservation was carried out, as information which is not enciphered, here which image data is not misused here or is not discarded accidentally, When a facsimile number, a personal name, the portion of width specific from the upper part of the original image data, and reception picture data have text information, such as an E-mail, the text information is used suitably.

[0024](Embodiment 1) An embodiment of the invention is hereafter described using Drawings. Drawing 1 is a lineblock diagram of the facsimile machine in the embodiment of the invention 1.

[0025]An image input part for 101 to input image data, such as a scanner, in drawing 1,

The image decision part which judges the image data which 102 analyzed the inputted image data from the image input part 101, and was enciphered in general image data, The operation input section by which 103 controls selection of a picture, an input of a password, etc. which encipher, The image memory final controlling element for 104 accumulating a picture to a picture memory part, taking out, or managing the operating condition of an image memory, A code image encoding part for the image output part which outputs image data [like a printer] whose 105 is, and 106 to encipher a general picture, The Research and Data Processing Department for a picture memory part for 107 to accumulate image data and 108 to manage the information about the image data read into the picture memory part 107, A code image decoding part for 109 to restore a code picture to a general picture, the image transmission section which 110 changes general image data into facsimile information, and transmits, and 111 are picture receive sections which receive facsimile information.

[0026]About the facsimile machine of this embodiment constituted as mentioned above, the procedure of encryption of image data is hereafter explained using drawing 2.

Drawing 2 is a flow chart of encryption of the image data in the embodiment of the invention 1. First, the image data which wants to encipher using the operation input section 103 is specified (Step S201). Display screens, such as liquid crystal display, may accompany the operation input section 103. In this case, choosing from the Research and Data Processing Department 108 the information, including a facsimile number, a name, etc., corresponding to the image data memorized by the picture memory part 107, displaying on a display screen and choosing from them is also considered. It is also possible to register the partner point to always encipher. Subsequently, it searches whether some are selected as image data to encipher in the picture memory part 107 (Step S202), and if it does not exist in the picture memory part 107, the error of displaying an error message to that effect is notified, and it ends (Step S203). In this case, it judges whether a password is required (Step S204), when image data exists, encryption processing is performed, but if required, a password will be inputted by the operation input section 103 (Step S205), and encryption processing is performed in the code image encoding part 106 (Step S206). If a password is not required, encryption processing will be performed as it is (Step S206). It judges whether the picture information which can be deciphered is required (Step S207), and if required, picture information applicable from the Research and Data Processing Department 108 using the operation input section 103, such as a facsimile number and a personal name, is pulled out, and it attaches to a part of code image data (Step S208). Finally, if necessary, the printout of the picture information will be carried out to code image data (Step S209).

[0027]Next, the procedure of encryption of inputted image data is explained using drawing 3. Drawing 3 is a flow chart of processing of the inputted image data in the embodiment of the invention 1. image data inputs from the image input part 101 -- having (Step S301) -- in the image decision part 102, inputted image data judges code image data or general image data (Step S302). If it is general image data, the image data which carries out facsimile transmission, or the image data which carries out encryption processing will be judged (Step S303). The indicating input of this judgment may be carried out using the operation input section 103. If it is a case of facsimile transmission, it will change into the usual facsimile send data in the image transmission section 110 (Step S304), and transmitting processing will be performed (Step S305). When it judges

with it being the image data which carries out encryption processing in Step S303, it goes into the processing step of image data encryption of drawing 2 A (Step S204). When inputted image data is code image data, it is judged whether the input of a password is required (Step S306). Under the present circumstances, in order to perform a comparison test with the password inputted, it is necessary to restore a part of password portion of the code image data in an image memory. When it is judged that the input of a password is required, a password is inputted using the operation input section 103 (Step S307). The inputted password checks the justification as compared with the password enciphered with encrypted images (Step S308). If it is not a just password in the check of a password (Step S309), error handling, such as a display of an error message, will be performed and it will end (Step S310). If it is checked that it is a just password, by the code image decoding part 109, the code picture of the picture memory part 107 is decrypted, and it stores in the picture memory part 107 (Step S311). It will be outputted by the image output part 105, if it judges whether the restored general image data which was stored in the picture memory part 107 outputs and output specification has been carried out (Step S312).

[0028]

[Effect of the Invention]As mentioned above, according to the facsimile machine of this invention, it has the following outstanding effects.

[0029]According to the invention according to claim 1, while excelling in privacy, it becomes possible to provide the facsimile machine which can do usage like a filing device or a copy device.

[0030]Since according to the invention according to claim 2 it can restore only when the image data in an image memory is chosen, it can encipher and output with a password, code image data is inputted and the specified password is proper, While excelling in privacy furthermore, it becomes possible to provide the facsimile machine which can do usage like a filing device or a copy device.

[0031]According to the invention according to claim 3, since the image data in an image memory can be specified by inputting the information relevant to image data in addition to Claim 1 or the effect of 2, it becomes possible to provide the facsimile machine excellent in operativity.

[0032]According to the invention according to claim 4, in addition to the effect of Claim 3, a facsimile number, Or by being able to carry out the plural specifications of the image data relevant to the personal name memorized by the facsimile machine collectively, and inputting beforehand the personal name memorized by the facsimile number or the facsimile machine, Since encryption etc. can be performed whenever it receives the image data corresponding to these, it becomes possible to provide the facsimile machine excellent in operativity.

[0033]According to the invention according to claim 5, since it can save and output with the information which can decipher the image data by which memory preservation was carried out in addition to the effect of any 1 paragraph of Claims 1-3, it becomes possible to provide the facsimile machine which does not misuse image data or is not canceled accidentally.

[Translation done.]